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Big Picture

Q: What is the NOAA Climate Service?

- The NOAA Climate Service will be a comprehensive and integrated office responsible for NOAA's climate science, data, information and services. It will provide a one stop shop for users across the nation in much the same way NOAA's National Weather Service has been providing weather information and services for 140 years. Individuals, local and national governments and the private sector are increasingly demanding this information to be able to better understand, adapt to, and plan for a changing climate.
- The NOAA Climate Service will bring together many of the agency's existing climate assets including research labs, climate observing systems, modeling facilities, integrated monitoring systems and extensive on the ground service delivery infrastructure.
- *See Org Chart for which NOAA assets and components will be housed in the new Climate Service.*

Q: What will a climate service do?

- A NOAA Climate Service will provide a single, reliable and authoritative source for climate data, information, and decision-support services to help individuals, businesses, communities and governments make smart choices in anticipation of a climate changed future.
- Re-organizing NOAA's climate assets to create the NOAA Climate Service will create a single point of entry for users, making our climate services more visible and accessible and therefore more useful to our many partners and users.
- NOAA Climate Service will:

Science

- Guide the evolution of NOAA's climate science enterprise based on changing societal needs, new scientific insights and continuous evaluation in collaboration with users, scientists and partners.

- Strengthen comprehensive climate observation and monitoring systems and provide state of the art research, modeling, predictions, and projections.
- Support research on the impacts of climate variability and change on human and natural systems, how these systems may respond, and what can be done to minimize the negative impacts of these changes.
- Clarify and consolidate information regarding the causes and effects of climate change.

Services

- Develop accurate and reliable, science-based climate information, products and decision support tools that are relevant and useful to equip policy makers, business leaders, local governments and other decision-makers to plan for a changing climate.
- Support the development of assessments and adaptation strategies from international to local levels.
- Collaborate with stakeholders to enhance their capacity to use climate information and related decision-support resources.
- Provide more accurate climate information, helping communities better prepare for future heat waves, poor air quality, drought, forest fires, coastal inundation, and other phenomena.
- Serve as a one-stop point of entry to NOAA's climate information, which will allow NOAA to better engage with users and partners in a clear and coordinated manner.
- Promote integrated service delivery at the national and regional scales.
- Provide the raw data for the private sector to develop and deliver diverse climate services to businesses and individuals.
- Stimulate the development of environmental technologies, applications and services in the private sector.

Products: NOAA Climate Services will build upon existing efforts and improve the provision of climate products such as:

- Inundation maps for coastal communities that reflect the best available information on sea-level rise and changing patterns of coastal storms;
- Heat projections to help managers plan future energy and health services needs;
- Climate and precipitation models to help farmers know the impact of a changing climate on their crops;
- Relevant historical climate data and data from state-of-the-art climate models to inform investment and planning for businesses and local governments;
- Routine vulnerability and risk assessments for climate-sensitive regions and sectors.

Q: Why is NOAA proposing to create a Climate Service?

- Our global scientific observations of the climate tell us that climate change is real and happening now. Scientific experts from more than 130 countries concluded that since 1900 global temperature has increased by 1.5°F and is expected to rise by another 2.0 to 11.5°F by 2100¹. On top of this long term warming trend, there continues to be natural climate variations affecting weather, temperature and precipitation patterns.
- Impacts and effects of climate variability and change have a significant effect on nearly all sectors of the economy and society. Better understanding the climate system and delivering this information in a coordinated relevant fashion is key to helping inform decision makers across society to be best prepared for weather and climate events and impacts. As the *Global Climate Change Impacts in the United States 2009*

¹ Climate Change 2007: The Physical Basis. Contributions of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

report indicates, climate-related impacts are evident and expected to increase. Signs of change abound: sea-level rise, longer growing seasons, increases in heavy downpours, droughts, extended ice-free seasons and more. Over time, we expect these impacts will be felt in nearly every aspect of our lives. Including accurate information about the expected magnitude and impact of these trends in the future is critical to informing smart decision making today.

- All sectors of society are faced with the need to better understand and anticipate the impacts of climate variability and change, in order to make the best decisions and be competitive at home in the United States and abroad. From across the nation, sectors including energy, agriculture, transportation, human health, and water resources are already recognizing the need for reliable and authoritative climate information to inform their decision-making.
- Until now, individuals, communities, governments and industry have relied on what we know about the past climate to make important decisions about the future. In order to be successful and competitive in a changing climate, Americans need reliable and authoritative information and data about expected future climate conditions so they can make smart choices for their families and businesses. With this information, we can envision an America that is more secure because decision makers have reliable information about vulnerabilities due to coastal sea-level rise, climate-related health issues, changes in food and water availability, and other climate impacts.
- The Nation needs an objective, authoritative, and consistent source of timely and reliable climate information, based on the best available science, to support decision-making at national, regional, state, and local levels. NOAA is uniquely positioned to help address this need, and stands ready to make key contributions in the development and delivery of climate science, tools, products, and information. NOAA can contribute urgently needed services to this effort by integrating and expanding its unique earth observation and monitoring assets, its world-class research and modeling capabilities, and its broad operational information services to support this unified service on a regional basis.
- Numerous external studies, by NOAA's Science Advisory Board, the National Academy of Sciences and others have reiterated the need for easy-to-find, reliable and understandable information and products about climate variability and change.
- Under NOAA's current distributed organizational structure for climate services, the rapidly-increasing user demand for climate services is outpacing NOAA's ability to effectively deliver the products and information being requested. A centralized NOAA Climate Service will increase the agency's ability to anticipate, understand and provide the information Americans need to meet the challenge of being competitive and resilient in the climate of the future by incorporating relevant climate knowledge in their decision-making today. Creating one office will establish a stronger position for NOAA to strategically guide its climate research, monitoring and assessment work in a coordinated fashion. A Climate Service office in NOAA will also create a visible and easy to find, single point of entry for people to access NOAA's science and service assets, and enable improved information sharing and more productive partnerships with federal agencies, local governments, private industry and other users and stakeholders.

Q: How did you come to this decision?

- For more than two years, NOAA has been actively engaged in evaluating climate service activities within the agency, as well as the contributions and needs of our partners and the greater user community.
- Several key reports completed over the past several years have further examined the concept of a Climate Service as a single point of accountability for providing climate services to the nation. We have based this decision on recommendations and input from NOAA leadership, the NOAA Science Advisory Board, the National Academies and others. These reports can be found at: http://www.noaa.gov/climate_resources.html.

Q: Why is NOAA the right place for a Climate Service?

- NOAA has an accomplished record of working closely with many federal, regional, academic and other partners on climate research, data collection and dissemination and climate service provision. We recognized the importance of this collaboration, and understand that no single agency can provide all climate services for all people. NOAA will continue to work with the White House Office of Science and Technology Policy who is leading an inter-agency effort to establish an integrated climate service enterprise that is inclusive of all relevant Federal climate capabilities.
- NOAA is uniquely positioned to provide critical information, data and service delivery infrastructure, and in many cases NOAA provides a foundation on which many others rely for their climate services. NOAA continues to engage with its federal partners to determine how all agencies can contribute to an inter-agency climate service enterprise.
- NOAA has a proven track record of providing these types of data and products nationwide. NOAA already responds to the millions of requests it receives each year for climate information by sharing data, observations, predictions, assessments, training and vital on-the-ground services. These climate services are now provided by diverse units within NOAA, including the National Climatic Data Center, the National Weather Service and the Coastal Services Center.
- A NOAA Climate Service will better align NOAA's internal assets to serve the public immediately and will increase NOAA's capability to contribute to any inter-agency efforts toward establishing a broader climate service enterprise.
- NOAA is already a leader in international efforts to improve climate services. In 2009, the NOAA Administrator led the US Delegation to the World Climate Conference -3, an international conference hosted by the World Meteorological Organization, whose objective was to establish a global framework for climate services. Establishing the NOAA Climate Service will improve the ability of the United States to be a world leader in the provision of reliable climate information and services.
- NOAA already supports international research and climate services. In 2008, for example, NOAA climate forecast data helped inform decisions in West and Central Africa where successful seasonal flood warnings saved lives. The early warnings led to early action, the right kinds of community preparation and fast evacuations. Anticipating future flooding also led to the first-ever pre-emptive financial appeal for preparation activities. Nearly \$750,000 was raised. NOAA's climate forecast data supported critical work by the Red Cross, the Red Crescent and NOAA-supported Columbia University's Institute of International Research Institute for Climate and Society.
- NOAA, as the home of the National Weather Service which has been providing information, warnings and protecting life and property for 140 years, is seen as an honest broker of relevant scientific information and products.

Q: What is the timeframe and next steps for establishing a NOAA Climate Service?

- On February 8, DOC and NOAA announced the intent to create a NOAA Climate Service. NOAA Leadership, working closely with a NOAA Climate Service Implementation team continues to work out the details of the reorganization.
- As required by the Consolidated Appropriations Act of 2010 (H.Rept. 111-366, P.L. 111-117), the National Academy of Public Administration (NAPA) researches options for structuring a National Climate Service within NOAA, which is scheduled for completion in September.
- In summer, NOAA will announce the hiring of six new Regional Climate Services Directors. These new positions will be employees of NOAA's National Climatic Data Center, however, they will be located in each of the six NWS regional offices.
- Following the completion and submission of the NAPA report to Congress and NOAA in September, NOAA will submit a reprogramming package to Congress for approval in late fall.

- Following congressional approval, NOAA will move quickly to implement the proposed re-organization and anticipates having a functional climate service up and running during the winter.

Q: What will NOAA be able to do in a few years that it can't do now as a result of creating this climate service?

What are the top priorities for this office?

- The NOAA Climate Service will work to develop a sustained capacity to provide regional and sectoral climate vulnerability and risk assessments to more effectively meet the requirements of the US Global Change Research Act (national assessment required every 4 years).
- The NOAA Climate Service will have a more clearly established regional footprint to coordinate and provide improved regional climate services.
- The NOAA Climate Service will be able to better align climate observing and modeling assets with strategic needs.

Q: How will this reorganization benefit the Obama Administration's clean energy initiatives?

- Industries in many sectors, including transportation, agriculture, energy, health and the environment are influenced by weather and climate. The NOAA Climate Service will provide a reliable source of information for all industry and investors, enabling them to plan for the challenges and opportunities a changing climate may present.
- The energy sector is heavily influenced by weather and climate. For example, increases or decreases in temperature directly influence energy demands for heating and cooling, especially peak demands. Energy is also closely tied to the availability of water, particularly for cooling purposes, which has implications for large, rapidly growing populations in the United States southwest where drier conditions are projected.
- Many areas of the rapidly growing clean energy and renewable energy sectors are tied even more closely to weather and climate conditions, not only because of climate change's impacts on infrastructure, communities and demand, but because of climate's impact on the availability and supply of renewable energy resources.
- The NOAA Climate Service will help project expected wind, water, ocean and growing conditions in different regions of the United States and the world, providing critical information to clean energy investors and developers. With the creation of a dedicated NOAA Climate Service, these products and information will be easier to find and more accessible for all users.
- This is a great opportunity and important step for the Obama Administration, establishing a strong and dependable source of information and services that will provide a critical foundation to drive forward the growth and recovery of the United States and world economy in the face of a changing climate.
- The NOAA Climate Service will also provide information about the environmental impacts and consequences, both positive and negative, of alternative energy development as the nation transitions to expand alternative energy options.
- Taking this step sends a strong signal that the US is acting decisively to address the challenges of climate change and is ready to be a leader domestically and internationally on understanding and adapting to climate change.

Q: What are the economic benefits of a Climate Service?

- The impacts of climate change are closely tied to our economy and will affect all aspects of our society and ecosystems.
- The NOAA Climate Service will help decision-makers, resource managers, and the public to better anticipate, plan for, and respond to impacts of changing climate conditions.
- These services will help taxpayers by providing tools that help in adapting to and mitigating climate impacts that could potentially result in significant economic, societal, and environmental damages.
- The climate service will give businesses, local municipalities, and state governments better access to high-quality, reliable climate information to support the planning and locating of critical infrastructure.

- Adequate planning today for the future impacts of a changing climate can avoid costly expenditures required to respond to climate change in the future.
- The reorganization also offers the potential to create new jobs. A brand new private sector industry -- one spawning new jobs and supporting a green economy -- could emerge around the core products and information generated by the new office, much like NOAA's National Weather Service spawned the creation of the private sector weather industry which is valued at over half a billion dollars.

Q: Won't you need new funding to really get this office up and running?

- The proposal does not call for additional funding to establish the new line office. This is a reorganization of existing assets to coordinate and integrate NOAA's existing climate capabilities for greater effectiveness, cohesiveness, and to improve service relevance and delivery. While additional funds are needed to increase the core capabilities and fully meet the rapidly growing demands for climate science and service, this proposed reorganization stream-lines current capabilities to maximize effectiveness independent of new resources.
- We will be working with Congress to establish a NOAA Climate Service in the most efficient, effective, and streamlined manner possible while still providing the products and services that the American people are demanding.

Q: How does the FY 2011 budget support a NOAA Climate Service? There were substantial increases for climate in FY 2011. Will these increases be incorporated into the new office?

- The FY 2011 increases for climate included in NOAA's budget will contribute to the development and growth of the new NOAA Climate Service. These increases were chosen by NOAA, the Department of Commerce, and the Office of Management and Budget with an eye toward enhancing NOAA's climate science and service capabilities, most of which would be housed in the NOAA Climate Service.
- FY 2011 climate increases total \$130M, which includes \$47M that would support activities in the NOAA Climate Service for:
 - Assessment Services (\$10 M) to establish a new sustained capability within NOAA to provide climate assessments to decision-makers at national and regional scales;
 - The NOAA Climate Portal (\$1.5 M) will establish one-stop public access to all of NOAA's climate data, information, and services online;
 - Three increases (Arctic Watch, GOOS, and Carbon Observing and Analysis System) totaling \$15.8 M will support critical climate observing infrastructure;
 - Earth System Modeling: Urgent Climate Issues (\$6.98M) will improve model resolutions and address critical areas of model uncertainty, including: sea-level rise, Arctic, terrestrial carbon cycle and biogeochemical feedbacks, and decadal predictions/abrupt change;
 - Expanding the development of climate quality data records from satellite observations (\$11M);
 - Enhanced data center operations (\$2M) will provide users with consistent and reliable access to the nation's environmental data and information via the Comprehensive Large Array-Data Stewardship System (CLASS).

In addition, the FY11 budget includes increases of \$83M for complimentary climate investments and infrastructure, including:

- Continuing the acquisition of critical climate sensors (\$49.4M), as recommended by the National Research Council 2007 Decadal Survey;
- The U.S. contribution to the Jason-3 partnership program (\$30M) to ensure continuity of measuring sea surface height, a critical climate data record that has been maintained for over 20 years;

- Resources to help communities prepare for climate hazards, such as increased flooding and storm surge impacts due to sea-level rise. (\$2.2M of \$4M requested is for climate related activities);
- The Gulf of Mexico Coastal and Marine Elevation Pilot request in NOS will address modeling climate impacts in this region (\$1.0M of \$2.0M requested is for climate related activities).
- We look forward to working with Congress on the FY 2011 budget and establishment of a NOAA Climate Service.

Q: Don't you need approval for this? New authorization is included in the Waxman-Markey bill directing NOAA to establish a climate service office. Does NOAA have authority to establish a national climate service?

- Over the past year, NOAA has been working closely its Federal partners and the Administration, including Office of Science and Technology Policy (OSTP), Office of Management and Budget (OMB) and Council on Environmental Quality (CEQ), prior to announcing an intent to create a NOAA Climate Service. This proposal was developed based on extensive input and careful analysis conducted both internally and by independent external partners such as NOAA Science Advisory Board and the National Academies of Sciences.
- We appreciate the strong support that Congress continues to provide for developing climate services, including the working draft bill and efforts of Chairman Rockefeller (D-WV) and majority and minority staff of the Senate Commerce, Science and Transportation Committee, Chairman Gordon's (D-TN) climate service bill, which is now included in the Waxman (D-CA)-Markey (D-MA) bill, and the NOAA climate service authorization language in Senators Kerry (D-MA) and Boxer's (D-CA) bill.
- And while the National Climate Program Act provides NOAA with ample authority to move forward its proposal to establish this new office, updated authorization that reflects the latest science and service approaches would ultimately be helpful.
- Having consulted broadly on its plans, NOAA now intends to work over the next several months to listen to feedback on the proposal, and prepare and submit a funding re-programming package to OMB and Congressional appropriations committees for their approval as soon as possible. We will continue to consult with all relevant external partners, Congressional authorizing and appropriations committees, Congress more broadly, and the Administration as we develop and submit this package, and ultimately look toward implementation.
- We look forward to continuing the dialogue and interaction with Congress on both our proposal and any future climate service legislation.

Q: Do you anticipate any objections from Congress about the reorganization?

- Over the next several months we continue to engage Members of Congress and NOAA's committees of jurisdiction about our proposal for a NOAA Climate Service. There is widespread interest in climate services in Congress, as evidenced by working draft and introduced bills, previous hearings on the issue, and other meetings and briefings.
- Ultimately, the Appropriations Committees with NOAA jurisdiction will need to provide concurrence on the reprogramming package that NOAA eventually submits to Congress, via OMB. We will be working in advance of this submittal to listen and respond to Congress's ideas about our proposal.

Q: What about other Agencies who work on climate issues? What about OSTP? How does this action to establish a NOAA Climate Service compare with Dr. Lubchenco's April 2009 testimony that OSTP would be leading an interagency process to scope out a national climate service?

- The White House Office of Science and Technology Policy (OSTP) have stated they will review the current climate activities across the federal government and establish an OSTP-led interagency process to coordinate climate services across the relevant agencies.

- NOAA believes that all agencies must consider climate change adaptation and mitigation as it relates to their mission areas. Just as the nation's climate research efforts require and benefit from sustained interagency and other partnerships, so too will the delivery of climate information and services.
- NOAA has much to contribute to addressing the nation's need for improved climate science and services. This announcement, outlining our plans to better align NOAA assets into a functional climate service, is a major step forward for this Administration in strengthening its capability to understand and adapt to climate change. NOAA is well-positioned, ready and willing to lead as the federal government strives to best equip the nation to face the challenges of a changing climate.
- NOAA already works closely with many federal, regional, academic and other partners on climate research, data collection and dissemination and climate service provision. We recognized the importance of this collaboration, and understand that no single agency can provide all climate services for all people.
- The NOAA Climate Service is an effort to better align NOAA's internal assets to best serve the public immediately and will increase NOAA's capability to contribute as a more effective partner in any inter-agency efforts toward establishing a broader climate service enterprise.

Q: Is NOAA working with other federal agencies on climate adaptation?

- NOAA is committed to working with our Federal partners to provide the best and most comprehensive climate services and information to decision makers across all sectors. We already participate fully in a number of inter-agency efforts including co-chairing the Council on Environmental Quality (CEQ), OSTP, NOAA Adaptation Working Group, leading many assessments for the US Global Change Research Program, and collaborating with the White House Office of Energy and Climate Change.
- NOAA understands that the relative roles and responsibilities of individual agencies will differ depending on the climate impact issue being addressed (e.g., water and other resource management, disaster risk reduction, community planning, public health) and that an effective response to the changing climate conditions will require an integrated, flexible, and responsive government-wide approach.
- NOAA is leading efforts to encourage collaboration on climate and related hazards and disasters between Federal, State, Tribal and other public and private agencies.

Organizational

Q: What does the climate service look like? How will the new structure differ from the current one? What programs will be included in the new office?

- The Climate Service office would incorporate a number of NOAA's climate science, research and observation centers, as well as some of its data and service delivery infrastructure. This arrangement would provide a strong climate research to service enterprise under a central management authority to further the goal of having a single, authoritative source of climate information.
- The building blocks of the new NOAA Climate Service will be drawn from three existing NOAA Line Offices:
 - From NOAA's Office of Oceanic and Atmospheric Research: The Geophysical Fluid Dynamics Laboratory, the Climate Program Office, and from the Earth System Research Laboratory – the Chemical Sciences Division, the Global Monitoring Division and the Physical Sciences Division.
 - From the National Environmental Satellite, Data and Information Service: The three data centers - the National Climatic Data Center, the National Oceanographic Data Center and the National Geophysical Data Center; as well as the Comprehensive Large-Array Stewardship System (CLASS) Program Office.
 - The Climate Service will also assume management of the relevant climate observing networks from the National Weather Service, including the Tropical Atmosphere Ocean (TAO) array, and modernization of the Historical Climate Network (HCH-m) and the hourly precipitation gauges.

Q: Who is in charge?

- Tom Karl, the Director of the National Climatic Data Center, has been the lead on NOAA climate services for over a year, and has done a fantastic job, working with many of the senior managers and climate leaders at NOAA to help guide us to this decision. He will continue to lead this effort as the Transitional Director for the NOAA Climate Service. Chet Koblinsky, Director of the Climate Program Office, will serve as the Transitional Assistant Director for the NOAA Climate Service.

Q: What does this mean for NOAA staff?

- NOAA has many talented staff working across the agency on climate related issues. As the impacts and challenges of climate change and the diversity of climate service needs have grown, so has the quantity of work to be done. This re-organization presents an exciting opportunity for all of NOAA. In the coming months, the implementation team will work out the details of this proposal, and what it means for each employee. At this time we do not have the answers for every person; however we are committed to working closely with the line office supervisors and managers and will keep affected offices informed.
- At this time, we can say that while there will be changes in structure, reporting lines, job titles and things like performance plans, no Federal employees will lose their jobs as a result of this reorganization and no one will be forced to relocate.

Q: Federal contractors play a key role in helping NOAA's programs and offices carry out their missions. Will contractors be a part of the new climate service?

- NOAA recognizes the crucial role that federal contractors play in helping us deliver products and services to the public. Quite simply, we could not provide neither the amount of products nor the level of services we currently deliver without our contractor partners. Contractors will continue to be part of our team working alongside federal employees in the new NOAA Climate Service.

Q: How can we find out more?

- NOAA is committed to keeping lines of communication with staff open during this transition, and has established a few mechanisms for this.
- We encourage NOAA employees to talk to their supervisors and managers about what these changes mean for them.
- Further information about the NOAA Climate Service is posted on www.noaa.gov/climate, and this site will be updated regularly.
- You can email questions and comments to climateservice@noaa.gov. This email address has been established as a central place to submit questions about the climate service, while every question will not be answered with a direct reply, these questions and comments will be monitored and used to update this Q&A document and other resources on the website to answer as many questions as possible.

Q: The Secretary announced six new Regional Climate Director Positions to be a part of this effort. What does that mean for the Regional Climate Centers, RISA's, Regional Climate Leads of the NWS and other regional climate efforts already underway?

- Part of this announcement is the fact that we will establish six regional climate directors at NOAA. These new people will be co-located with the Nation Weather Service regional directors and will be responsible for climate activities across all of NOAA in each of the six weather service regions.
- NOAA already has extensive regional climate capabilities and partners with other external groups, and coordinating and enhancing those will be one of the most important outcomes of establishing a Climate Service at NOAA.
- The two primary duties include:

- 1) Responsibility for providing leadership in the development of an integrated NOAA program of climate services on a regional scale that responds to the needs of stakeholders and draws upon agency-wide assets and capabilities.
- 2) Management of the development and execution of a Regional Climate Services Strategic Plan that combines the unique assets and special capabilities of NOAA programs working with regional partners in other Federal agencies, state, local and tribal governments, universities, the private sector and NGOs.

Q: We heard many times that no federal employee is going to lose their job. What about the cooperative institute employees who have been working here more than 5 years and decided to make a career at NOAA labs?

- NOAA's Cooperative Institutes are academic and non-profit research institutions that conduct research in support of NOAA's Mission Goals and Strategic Plan. NOAA recognizes the value in maintaining and strengthening our partnerships with all of our Cooperative Institutes, and will seek to minimize any disruptions to the functioning of these partnerships. Five year funding for Cooperative Institutes is awarded through a competitive process, however yearly funding is dependent upon NOAA's annual congressional appropriations. This basic funding mechanism will not change with the NOAA Climate Service other than some of the Cooperative Institutes partnerships in the future may be administered by the NOAA Climate Service instead of OAR or NESDIS. Cooperative Institute employees will continue to have a similar degree of job security as they do today, which is dependent upon their specific Cooperative Institute continuing to win competitive funding opportunities and NOAA's annual congressional appropriations.

Q: What impact will the new NOAA Climate Service and the associated reorganization have on NOAA's existing Regional Climate Centers?

- The reorganization proposal for the NOAA Climate Service assumes that the Regional Climate Centers (RCCs) will continue to be core partners in the development and delivery of climate data, products and information services at the regional level. Their sponsorship will move with NCDC into the proposed NOAA Climate Service.
- The Regional Climate Centers will be a core part of our regional climate services partnership and will continue to deliver climate services at the regional level, conduct interdisciplinary research with our academic and research partners, conduct education and outreach activities, and enhance the integration and data quality of NOAA's observing networks. We are in the process of engaging the RCCs and other regional partners in the development of our regional climate operations plan and more clearly defining the role of the RCCs, RISAs and State Climatologists.

Q: This takes a lot from NOAA's research office, the Office of Oceanic and Atmospheric Research (OAR); what does this mean for NOAA's science and research? How will you sustain that research enterprise with a limited budget and diminished capability?

- Science is an essential component of all NOAA responsibilities, and underpins our ability to provide quality services, based on sound science. Good climate science is at the core of the climate service. This reorganization does not take away any of NOAA's current capabilities, rather, it re-organizes them to better complement and support each other.
- At the same time, not all research, or all things climate have been moved into this new line office, and you will notice that OAR has not been replaced by the Climate Service. This is because of the unique importance of a dedicated science and research enterprise within the agency.
- OAR served as the incubator for much of the science and discovery that opened the eyes of the world to the risks of greenhouse gas emissions, climate change, and ocean acidification. Retaining this line office, and strengthening science across the agency remains a top priority at NOAA, and is critical to constantly improving all NOAA services, as well as ensuring NOAA remains on the cutting edge of oceanic and atmospheric scientific discovery helping to discover and respond to the next major challenge.

- This commitment to a strong and vibrant research enterprise at NOAA is an important part of the Next Generation Strategic Plan. Over the long term, NOAA's vision and strategic goals hinge on an enhanced understanding of the complex interrelationships that exist across NOAA's climate, weather, ocean, and coastal domains, and a vibrant central research capability has an essential role to play in pushing the boundaries of scientific understanding and integrating information across scientific disciplines.
- We are taking a number of steps to strengthen science across the agency, including re-instating the position of NOAA Chief Scientist, and making it a vital part of the Headquarters leadership team. This position will be on a par with the two Assistant Secretary positions.
- We are also developing a plan to actively involve scientists and science leaders across the agency in the development of our research strategy for the future, and using our NOAA Research Council to strengthen formal mechanisms for evaluating our research activities. As part of this process, the Senior Science Advisor, acting on behalf of the Office of the NOAA Chief Scientist, is working with the NOAA Research Council to develop corporate guidance for establishing consistent, agency-wide peer review and monitoring processes for all NOAA scientific activities, including an annual State of NOAA Research Report.
- Dr. Lubchenko is currently working with her Senior Science Advisor, Dr. Paul Sandifer, to identify actions to strengthen NOAA's science and for examining NOAA's science strategy. More information will be forthcoming soon. She intends for active researchers from across the agency to play major roles in this visioning and planning effort.

Q: Will the role of the NOAA Research Council evolve as NOAA strengthens science across the agency?

- Yes, we anticipate that the NOAA Research Council will evolve and become a more robust forum for planning and integrating research across the agency, with leadership provided directly by the Chief Scientist and including representation of active researchers.

Q: What will be the relationship between the OAR assistant administrator, the new chief scientist and NOAA Research Council?

- These have not been finalized since we do not yet have a Chief Scientist in place. However, it is anticipated that the Chief Scientist will become the Chair of the NOAA Research Council, and the OAR assistant administrator would serve as vice-chair of the NOAA Research Council. Further, as leader of the central research Line Office, it is expected that the OAR assistant administrator will become a major advisor to the Chief Scientist.

Q: Why did NOAA decide not to move other research components (represented at the NOAA Research Council) into OAR?

- Strengthening science remains a critical element of our efforts. The research enterprise at NOAA consists of much more than research on climate. The reorganization resulting in the creation of the NOAA Climate Service presents an opportunity to refocus attention on other important research areas for NOAA. We are now turning attention to the broader science and science organization questions and expect that by this fall we will have a clear vision of the overall NOAA science enterprise, which of course includes OAR as a major component.

Q: Why did NOAA decide to align the Regional Climate Directors with the National Weather Service regions and not other NOAA regions?

- NOAA entities are organized in a number of different regional formats. The NCS did not want to add a new regional construct. By aligning with the existing NWS regions, we can better maintain the close interaction needed between weather and climate information to provide information on the scale of weeks to decades.

Q: There are pieces from OAR moving on to the NOAA Climate Service that have been primarily funded as weather research. How will these projects function as part of the NOAA Climate Service?

- NOAA laboratories support multiple NOAA missions including both weather and climate. These laboratories will continue to support weather research. NOAA has developed a set of business processes over the past decade that facilitate cross line office coordination and collaboration. The NOAA Climate Service will use these business processes.

Q: Why is the NWS Climate Prediction Center (CPC) not being moved to be included as part of the new NOAA Climate Service Office?

- An argument can be made to house the Climate Prediction Center in either the National Weather Service or the proposed NOAA Climate Service.
- CPC products cover time scales from 6-10 day outlooks to weeks to seasons, extending into the future as far as technically feasible. Thus CPC can be viewed as the bridge or continuum of services from weather time scales into climate time scales. CPC is an operational entity that delivers routine products and depends on the operational infrastructure of the NWS National Centers for Environmental Prediction (of which it is part) and input from the NWS personnel in the field.
- CPC operations within the NWS will require a close working relationship with the proposed NOAA Climate Service. This means that we will be developing mission statements for CPC that define how they will work in various areas including for example, long-range predictions, reanalysis, re-forecasts, data assimilation, monitoring, and defining research gaps. CPC will be expected to continue to provide its regular products and services relying on the NWS infrastructure.
- Just as NWS has an Ocean Prediction Center that provides operational products, warnings and forecasts outside of but complementary and relevant to the National Ocean Service, the Climate Prediction Center which will continue to provide operational products and services from the NWS Line Office, but they will be complementary and relevant to the NOAA Climate Service.

Q: Where will the NOAA Climate Service be headquartered?

- It is anticipated that the NOAA Climate Service headquarters will be in Silver Spring, MD where the rest of the NOAA line offices are headquartered.

Q: Wouldn't it be more cost efficient and NOAA's other Line Offices better served if research programs were moved into their related Line Offices where they can directly work with resource management programs?

- NOAA leadership spent a significant amount of time evaluating the different models of research and service interactions within NOAA and even other options. This was discussed with the external community, as well, through working groups within the NOAA Science Advisory Board and it was determined that this proposal was the best.
- There is certainly value to having some research in each operational line office to ensure it is directly relevant to the immediate needs of users and is directed deliberately toward improving current services. As such, all of NOAA's line offices do contain some research activities that are directly relevant to their operations.
- It is also valuable to have an office that exists with the sole purpose of advancing the science and research enterprise across the agency as a whole.
- Much as the science and discoveries that came out of OAR to date have led to the realization of the need for, and now the proposal to create a climate service in NOAA, the research that OAR continues to conduct will help identify the nation's next major challenges and ensure NOAA is equipped to help face them.
- OAR has a long standing history of incubating nascent science relevant to NOAA's mission and long term strategy. Once the science matures, OAR then works across the Line Offices to transition that research into operations. This function is critical to NOAA's long-term success.

Q: How will this Climate Service interact with the National Weather Service? What about the union employees?

- The Climate Service will interact with all NOAA Line Offices. In the case of the National Weather Service, there are several key interactions that will be sustained to support the success of the Climate Service. Here are a few examples:
 - The data collected by the National Weather Service each day feeds into the long-standing climate record current maintained by the National Climatic Data Center (NCDC), now proposed to be part of the Climate Service. This relationship will continue.
 - The NWS and the Climate Service will work together to deliver a seamless suite of weather and climate predictions and projections to the nation from minutes to several decades, a unique capability of NOAA.
 - NWS will continue to work with the Climate Service (through NCDC) on data standards, continuity of data and our relationship with the Regional Climate Centers.
 - The NWS Climate Prediction Center will continue to provide operational seasonal outlooks and predictions, and hazard assessments, and will inform the Climate Service on the important phenomena that link climate to weather events (e.g., El Nino/La Nina, Madden/Julian Oscillation, teleconnections, etc.).
 - The NWS will continue to contribute to the Drought Monitor.
 - NWS currently employs 6 Regional Climate Service Program Managers and 135 Climate Services Focal Points who are responsible for developing and/or delivering climate information relevant to their regions, states or local users. These employees will continue this task and be prepared to deliver new information developed by the Climate Service. This established and trusted delivery network will be critical to the success of the Climate Service.
 - The Climate Service will house its six new Regional Climate Service Directors in the established NWS Regional Headquarters to ensure coordination between NWS and the Climate Service and leverage the existing relationships in the regions.
 - The NWS develops and administers climate training to NOAA employees and our partners. NWS will collaborate with the Climate Service in the development and administration of these training modules.
 - We are fully aware of and committed to fulfilling all labor relations obligations associated with the creation and operation of the NOAA Climate Service. Implementation of the NOAA Climate Service will be consistent with existing collective bargaining agreements and the Federal Service Labor-Management Relations Statute.

National Academy of Public Administration (NAPA) Report

Q: What is the NAPA study? Doesn't NOAA need to wait for that to decide how to design a climate service?

- The Consolidated Appropriations Act, 2010, contains a provision that asks the National Academy of Public Administration (NAPA) to contract with NOAA to evaluate options for re-organization and formation of a National Climate Service.
- NOAA has already met with NAPA and is excited to have their expertise and advice moving forward.
- Over the past two years, NOAA has been actively engaged in evaluating climate services activities within the agency. Relying on a wealth of knowledge and analysis, both internal and external, to inform our thinking and future plans, NOAA has developed an organizational approach to establish a climate service within the agency.
- NOAA is asking NAPA to provide an external review of this planned approach, and to examine NOAA's organizational design choice compared to other possibilities, to ensure that it meets the criteria for an effective climate service. We are also looking to NAPA for guidance and advice on implementation and

planning, an area in which they have extensive expertise, to ensure the successful establishment of a climate service in the agency.

- Following the completion and submission of the NAPA report to Congress and NOAA in September, NOAA will review the recommendations and submit a reprogramming package to Congress for approval in late fall.

National Polar-orbiting Operational Environmental Satellite System (NPOESS)

Q: How does the recent NPOESS decision affect NOAA's climate abilities?

- Ensuring the continuity of satellite operations is critical to providing the data needed for weather forecasts and climate measurements. The president's FY 2011 budget request reflects the recent White House decision to improve federal management for the nation's next generation of polar orbiting satellite by restructuring the management of the program. The FY 2011 budget includes \$1.1 billion in the NOAA budget for NOAA's portion of the program, the new Joint Polar Satellite System (JPSS).
- Through the JPSS, NOAA will be responsible for management and procurement of the satellites and instruments associated with the afternoon orbit which is most critical to data for weather and climate. NOAA will contract with NASA to accomplish some of these tasks. The Department of Defense will be responsible for the morning orbit which is critical to national defense. NOAA will continue its successful partnership with the Air Force by managing the ground systems development and operations of the Air Force satellites.
- The instruments on JPSS will be similar to NPOESS. The program will continue the critical climate measurements of Earth radiation budget, total solar irradiance, and ozone profiling as had been re-manifested on the NPOESS program
- The restructured Joint Polar Satellite System will continue to address NOAA's requirements to provide global environmental data used in numerical weather prediction models for forecasts, as well as provide space weather observations, search and rescue detection capabilities, and direct read-out and data collection products and services to customers. Data and imagery obtained from the Joint Polar Satellite System will increase timeliness, accuracy, and cost-effectiveness of public warnings and forecasts of climate and weather events, thus reducing the potential loss of human life and property and advancing the national economy.
- These changes to the NPOESS program will better ensure continuity of crucial civil climate observations and weather data in the future. Data from instruments on JPSS will be used to continue long-term, in some cases almost 50 years, of satellite-based climate data records. These data records are unified and coherent long-term environmental observations and products that are critical to climate modelers and decision makers concerned with advancing climate change understanding, prediction, mitigation and adaptation strategies, policies, and science. JPSS, with its global view, will play a vital role in continuing these climate data records.